

Notice of Allowability

Application No.

09/932,513

Applicant(s)

MORAND ET AL.

Examiner

Hsien-Ming Lee

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/14/03.
2. ☒ The allowed claim(s) is/are 1-18.
3. ☒ The drawings filed on 17 August 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

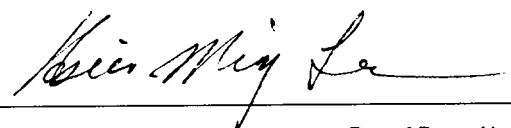
7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6 <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No. <u>121703</u> |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____ | 7 <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |



DETAILED ACTION

Remarks

1. All objections and rejections as set forth in the previous Office Action are withdrawn.
2. Claims 1-18 are pending in the application.

Examiner's Amendment

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jose Gutman (Reg. No. 35,171) on Dec. 17, 2003.

4. The application has been amended as follows:

In claim 1 (lines 2 and 10), claim 3 (line 2), claim 6 (line 2), claim 7 (line 2), claim 10 (line 2), claim 11 (line 2), claim 12 (lines 2 and 8-9), claim 13 (line 2), claim 15 (line 2) and claim 17 (line 2), replace "several metallization" with – **a plurality of** metallization --.

In claim 1 (line 4), claim 12 (line 4) and claim 18 (line 5), replace "the same" with --**a** --.

In claim 5 (line 2) and claim 9 (line 2), insert – **a** – before "material."

In claim 14 (line 2), replace "the conducting material" with – **a** conducting material --.

In claim 12 (line 12), claim 17 (line 3) and claim 18 (lines 7 and 15), insert – **at least one** – before "capacitor."

In claim 12 (line 4) and claim 18 (line 5), delete – **the** – before "tracks."

Allowable Subject Matter

5. Claims 1-18 are allowed.

6. The following is an examiner's statement of reasons for allowance:

The prior art of record, Brabazon et al. to US 6,008,083, teaches a method for fabricating an integrated circuit (Figs. 12-13), the method comprising the steps of:

- producing plural metallization levels (i.e. first level 10, second level 54/56 and third level 74/76/78), which are mutually separated by an interlevel insulating layer 52;
- producing intertrack insulating layers 72, each separating tracks 74, 76 and 78 of the same metallization level;
- producing at least one capacitor comprising a lower electrode 62 and an upper electrode 68 which are mutually separated by a dielectric layer 66; wherein the producing the at least one capacitor comprises:
 - simultaneously producing, in at least part of an interlock insulating layer 58 associated with a particular metallization level 62/68 and 64, the lower electrode 62, the upper electrode 68, and the dielectric layer 66 of the at least one capacitor;
 - simultaneously producing a conducting trench 64 electrically isolated from the upper electrode 68 and has a traverse dimension smaller than the traverse dimension of the capacitor; and
- producing, in the intertrack insulating layers 72, two conducting pads 76 and 78 which come into contact with the upper electrode 68 of the capacitor and with the conducting trench 64, respectively.

In re claims 1-11, Brabazon et al at least neither teach nor suggest the claimed process comprising *simultaneously* producing the conducting trench which *laterally extends the lower electrode* of the at least one capacitor; the *lower electrode* is formed from *a residual part* of the *first* conducting layer resided in *internal walls of the cavity* and to leave *another* residual part of the *first* conducting layer in the *conducting trench*; and the width of the conducting trench is at least *twice* the thickness of the first conducting layer and *less than twice the sum* of the thickness of the first conducting layer and of the thickness of the dielectric layer.

In re claims 12-18, Brabazon et al at least neither teach nor suggest the claimed integrated circuit comprising the lower electrode of the at least one capacitor is *laterally extended* by a conducting trench; and the conducting trench comprising *dielectric encapsulated by a conducting material forming the lower electrode*.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hsien-Ming Lee whose telephone number is 703-305-7341. The examiner can normally be reached on M-F (9:00 ~ 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7382.

Art Unit: 2823

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Hsien-Ming Lee
Examiner
Art Unit 2823

Dec. 17, 2003

A handwritten signature in cursive script, reading "Hsien Ming Lee". The signature is written in black ink and is positioned to the right of the typed name.